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ABSTRACT

A cost/benefit analysis of the assessment of experiential learning was performed at Webster College, Missouri. An undergraduate and a masters degree program were studied; the costs of evaluating experiential learning were compared to the costs of traditional college programs. Total costs for experiential learning assessment were found to be significantly less than the costs for conventional classroom instruction. Furthermore, unit costs decreased as the volume of assessment increased. It was also concluded that the evaluation of the relative benefits of assessment programs should be made within the context of long-range institutional goals. This model will probably be most useful to private colleges that are faced with changing clientele and that have the capacity to attract older students. (Author/MV)

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# ANALYZING COSTS IN THE ASSESSMENT OF PRIOR LEARNING

**CAEL Institutional Report**
**Webster College**

Cooperative Assessment of
Experiential Learning

TM006 738

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CAEL Institutional Report
Webster College

# Analyzing Costs in the Assessment of Prior Learning

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CAEL Institutional Reports are prepared at member institutions in cooperation with the CAEL project, and are based upon special projects commissioned by the CAEL Steering Committee. While Institutional Reports reflect the general orientation and types of work priorities determined by the Steering Committee, they are reports of the individual institutions and may reflect practices different from those suggested elsewhere by CAEL.

Cooperative Assessment of Experiential Learning

September 1976

# CONTENTS


| | | |
|---|---|---|
| | Preface | iii |
| I. | Assessment Programs at Webster College | 1 |
| II. | Resources and Constraints in the Webster Cost Analysis Project | 3 |
| III. | Methodology in Determining Indirect Costs | 9 |
| IV. | Methodology in Determining Direct Costs | 15 |
| V. | Cost Benefit Analysis | 19 |
| VI. | Conclusions | 21 |


LIST OF FIGURES AND TABLES


| | | |
|---|---|---|
| Figure 1. | Sequential Model for Assessment--WC MAI | 4 |
| Figure 2. | Sequential Model for Assessment--CC | 6 |
| Table 1. | Monthly Budget Report | 10 |
| Table 2 | Interview Tool | 11 |
| Table 3. | Treasurer's Budget Analysis | 12 |
| Table 4. | Library Analysis | 13 |
| Table 5. | Registrar's Office Analysis | 14 |
| Table 6. | Direct Costs in WC MAI | 16 |
| Table 7. | Direct Costs in the CC | 18 |

# PREFACE

About the CAEL Operational Models Project

This report is one of a series of institutional reports produced under the auspices of the CAEL Operational Models Project. A few words of background may be useful in helping readers to understand the purpose of the work and the context in which it was undertaken.

CAEL's overall mission is to improve the assessment of experiential learning, but considering how assessment techniques and materials are used in institutions, it is clear that there are many problems of implementation. Assessment does not exist as an isolated process but is embedded in a context of existing academic procedures, policies, and people. The CAEL Steering Committee recognized that if experiential learning is to become an effective part of the curriculum, it is critical to develop sound procedures for integrating the assessment process into the traditional academic structure.

The Operational Models Project was conceived in response to that need. It was supported by the Fund for the Improvement of Postsecondary Education in July 1975. The basic plan was to select 12 institutions facing rather different implementation problems and to provide a cooperative context for each to devote special attention to its particular concern. Some have focused on the problem of defining standards--an issue that lies at the heart of most educational questions that arise with respect to a new program. Other institutions have focused upon the problem of financing learning and assessment programs--an issue that lies at the heart of most administrative questions that arise with respect to a new program.

Each institutional team has worked toward clarification and documentation of desirable policies and working procedures for incorporating the assessment of experiential learning into the fabric of its own institution; i.e., an improved operational model. This report is one of the products. In order to enhance the dissemination and utilization of this work, each institution producing an operational model has held or will hold a local "dissemination workshop" for interested institutions in its immediate area. In addition, the institutions held national workshops at the fall 1976 CAEL Assembly meeting.

Even though the 12 institutions participating in this project were selected partly because they faced different implementation problems, there is necessarily a good deal of commonality of interest and overlap in the issues of greatest concern. As a consequence, it sometimes happens that the same issue or assessment practice is discussed in several reports from a somewhat different point of view. From the perspective of someone reading the entire series, some points may appear to be repeated unnecessarily, but there is value in noting the manner in which a general approach is adapted in different situations. Furthermore, it was felt more important to have each institutional report stand on its own than to artificially edit out discussion of an essential aspect of an assessment system simply because that aspect is reflected in the work of more than one institution. The authors have, however, tried to focus their attention on the unique aspects of their programs so that this series can have a maximum benefit to other institutions.

## The Webster College Operational Model

Webster College is a private, independent college located in suburban St. Louis, Missouri. It has three major programs: the undergraduate school (900 students), the Master of Arts, Individualized (2,330 students), and the Master of Arts in Teaching (970 students). The undergraduate college has 12 academic departments and four special academic programs in the liberal and fine arts. The extensive undergraduate program in Theatre Arts is supported by a resident theatre company with a national reputation. Undergraduates may earn one of the following degrees: Bachelor of Arts; Bachelor of Fine Arts; Bachelor of Music; and Bachelor of Music Education. The Master of Arts, Individualized is a management-oriented program. In addition to maintaining a program on campus, the MAI also offers programs at a variety of military, civil service, and business organizations from the east coast to Texas. The Master of Arts in Teaching program provides in-service professional development education for practicing classroom teachers in the St. Louis metropolitan area.

Although many of the educational activities within the college emphasize experiential learning, there are two agencies within the college which facilitate assessments of prior learning: the Webster Campus Master of Arts, Individualized and the undergraduate Contract Center. Assessments in both programs stress learning rather than experience, student constructed portfolios, and one or more faculty/staff members as evaluators. In addition to assessments, both agencies facilitate a number of learning activities such as independent studies and individualized areas of concentration. Both programs are fully integrated with the academic programs, curriculum, and budget of the rest of the college.

This report describes Webster's experience in cost analyzing the assessment of prior learning in these two programs. It describes the assessment programs, details the institutional resources and constraints relevant to the cost analysis project, describes a methodology for arriving at indirect and direct costs, and then presents a cost-benefit analysis of the assessment programs. The report concludes that total assessment costs are significantly less than costs for conventional classroom instruction, that unit costs diminish as the volume of assessment increases, and that the evaluation of the relative benefits of assessment programs should be made within the context of long-range institutional objectives.

This report will probably be most useful to private institutions faced with a changing clientele, possessing the capacity to attract older students, and having the ability to reallocate some faculty/staff resources away from class instruction and toward the various phases of assessment.

The writers of this report would like to acknowledge the time, energy, and enthusiasm which all the program directors at the college contributed to this study. We are especially grateful for the wit and wisdom of Dr. Barbara Barbato, Professor of History and Director of the Contract Center, who provided invaluable guidance throughout the preparation of this cost analysis study.

# I. ASSESSMENT PROGRAMS AT WEBSTER COLLEGE

This report describes the experience of a private, independent college in cost analyzing the assessment of prior learning for graduate and undergraduate students. Webster College is located in Webster Groves, a suburb of St. Louis, Missouri, and its students come largely from the St. Louis metropolitan area. There are three major programs at the school: the undergraduate college, the Master of Arts in Teaching Program, and the Master of Arts Individualized Program. Two agencies within the college facilitate learning assessments: the Contract Center (CC) for undergraduate students and the Webster Campus Master of Arts Individualized Program (WCMAI) for graduate students. It should be emphasized, however, that, in addition to learning assessments, both of these agencies engage in a number of activities, e.g., independent studies, individualized areas of concentration, special courses, etc. The Contract Center serves some 500-550 students yearly, but facilitates assessment of prior learning for 70 of these students; the Webster Campus MAI completes assessments for about 20 of its 130 students. The enrollment figures for these various programs are given below.

| | On-campus | Off-campus | Total |
|---|---|---|---|
| Undergraduate College | | | 900 |
| Contract Center | | | |
| Students served | 500-550 | | |
| Assessments completed | 70 | | |
| Master of Arts in Teaching | | | 970 |
| Master of Arts Individualized | | 2,200 | 2,330 |
| Webster Campus MAI | 130 | | |
| Assessments completed | 20 | | |
| Total Enrollment | | | 4,200 |

The Contract Center was initiated in the spring of 1973 and has conducted assessments since the summer of that year; the Webster Campus MAI began in the summer of 1973 and has conducted assessments since the summer of 1974. The usefulness of this report for institutions comtemplating an assessment program may derive chiefly from the fact that two *ongoing* programs are described.

The procedures for assessment in the Webster Campus MAI and the Contract Center are nearly identical. Sequential models describing this process are shown in Figures 1 and 2. Suffice it to say here that both agencies stress learning, rather than experience per se, and both use student-constructed portfolios and one or more faculty/staff members as evaluators.

# II. RESOURCES AND CONSTRAINTS IN THE WEBSTER COST ANALYSIS PROJECT

In preparation for the cost analysis, we surveyed the available resources, both external and internal, that would provide support for the project. The external research included informal discussions with economists and accountants, more formal examination of the literature of cost analysis, and participation at the CAEL Operational Models Workshop and a NACUBO (National Association of College and University Business Officers) Workshop on Internal Control and Cost Analysis. We also looked at cost analysis systems at other institutions. The purpose of this research was to become familiar with alternative approaches to cost analysis.

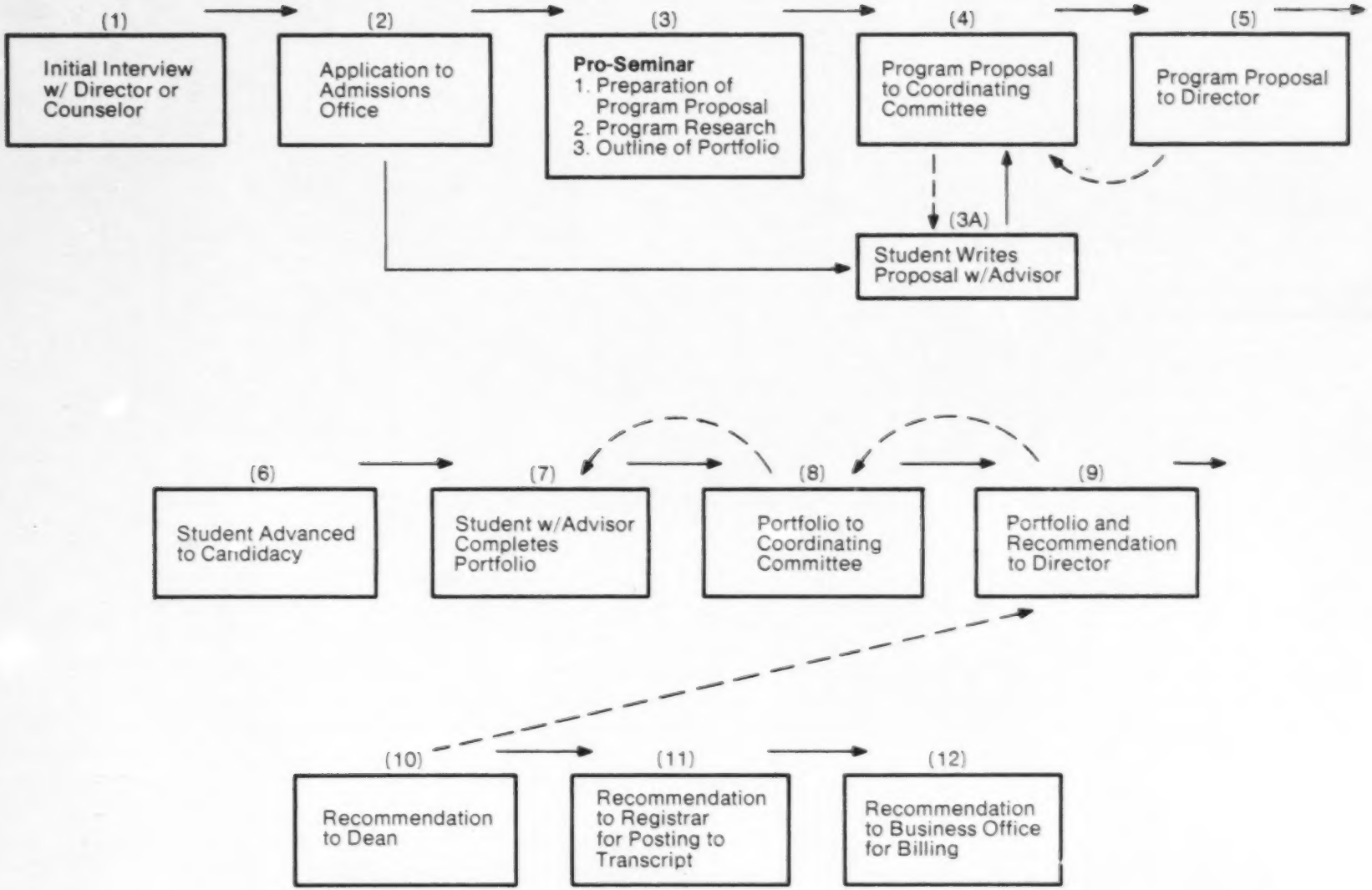
Our next step was to survey internal resources, in terms of both personnel and information systems, that would facilitate or constrain the project. We held discussions with faculty members in business and economics, accountants in the Business Office, and other key figures such as the Registrar and the Treasurer. We also studied the school's budgeting and accounting system to determine what general financial information could be applied to this project.

After surveying the existing cost analysis models and examining our internal budgeting and accounting system, it became important for us to evolve a cost analysis process compatible with our information. A complex and detailed cost analysis system, such as the NCHEMS model, would be wholly inappropriate since we lacked the budgetary information required for such a system. Similarly, the specific cost analysis approaches used by the other academic institutions which we surveyed were not wholly applicable since our budgetary data bases differed. Our task became to modify and tailor existing cost models so that the results of the cost analysis would make sense in terms of Webster's budgeting system.

An examination of the sequential flow chart for the assessment processes for both the graduate and undergraduate programs (Figures 1 and 2) revealed that costs in both cases fell into similar categories. Indirect costs for both agencies derived from the same supporting activity centers, such as the Admissions Office and the Registrar's Office. Thus, the study of these costs could be a single project. We also determined that the indirect cost study would focus initially on the costs for any 20 Webster Campus MAI students and for any 70 Contract Center students. From these figures we would abstract the actual indirect unit costs for the assessment process itself.

Direct costs, such as faculty and staff salaries, would be computed separately for each agency. In this case, we would be able to focus more directly on the costs incurred by the assessment process itself. Once both indirect and direct costs were obtained, we would compare them with the unit costs for traditional classroom instruction and prepare a cost benefit analysis.

Having devised a general plan for the cost analysis, we also considered what obstacles, if any, might stand in the way of the execution of the project. Top management had supported the project initially, but we took care to keep them informed of the purposes and extent of our activities. It occurred to us that some support activity centers and some personnel might feel threatened by our inquiries. It also seemed possible that, out of ignorance or indifference, individuals might provide us with grossly inaccurate information. With these potential constraints in mind, we determined that the indirect costs might best be uncovered in an interview




NOTE: Solid lines indicate the process through which each student must pass. Dotted lines indicate the most likely points at which feedback may occur.





**Figure 1. Sequential Model for Assessments—Webster Campus MAI**

Notes to Figure 1

(1) All prospective MAI students, whether they opt for an assessment or not, must have an initial interview with the Director or a counselor prior to admission. The purpose of this interview is to ascertain whether or not the student can design a degree within the framework of the MAI. About 30 percent of the students who seek admission are counseled out of the program. Possibilities for assessments are discussed at this time, and students are informed of the assessment rationale and assessment procedures. Initial interviews average a half hour in length with about 10 minutes being devoted to the assessment discussion for those who indicate such an interest.

(2) Students who are approved for admission file an application form with the college's central Admissions Office. Once undergraduate transcripts are received by the Admissions Office, the student's file is forwarded to the MAI Office for approval by the Assistant Dean. Applications for Webster Campus students must be approved by the Director as well.

(3) As either the first or second course in their curriculum, many students take "Pro-Seminar: Program Research and Careers." During this course students construct their Program Proposal which outlines their entire 30-hour program (including proposed assessment credits), compile an annotated bibliography of resources central to their individualized degree, and, if appropriate, draft an outline of the contents of their portfolio.

(3A) The use of the "Pro-Seminar" is increasingly the norm. However, some especially self-directed and prepared students simply work with an advisor at this stage.

(4-6) The completed Program Proposal is forwarded to the appropriate Coordinating Committee for approval. If not approved, it is returned to the student and his/her advisor for modification. If approved, the Program Proposal is forwarded to the Director. The student is then advanced to degree candidacy.

(7) At this stage the student, with the assistance of an advisor selected from the coordinating committee or some other competent faculty member, completes the portfolio. If approved by the advisor, the portfolio is forwarded to the Coordinating Committee.

(8) The Coordinating Committee chairperson reports the judgment of the committee in memo form and on a credit recommendation form. The portfolio and the forms are forwarded to the Director for review.

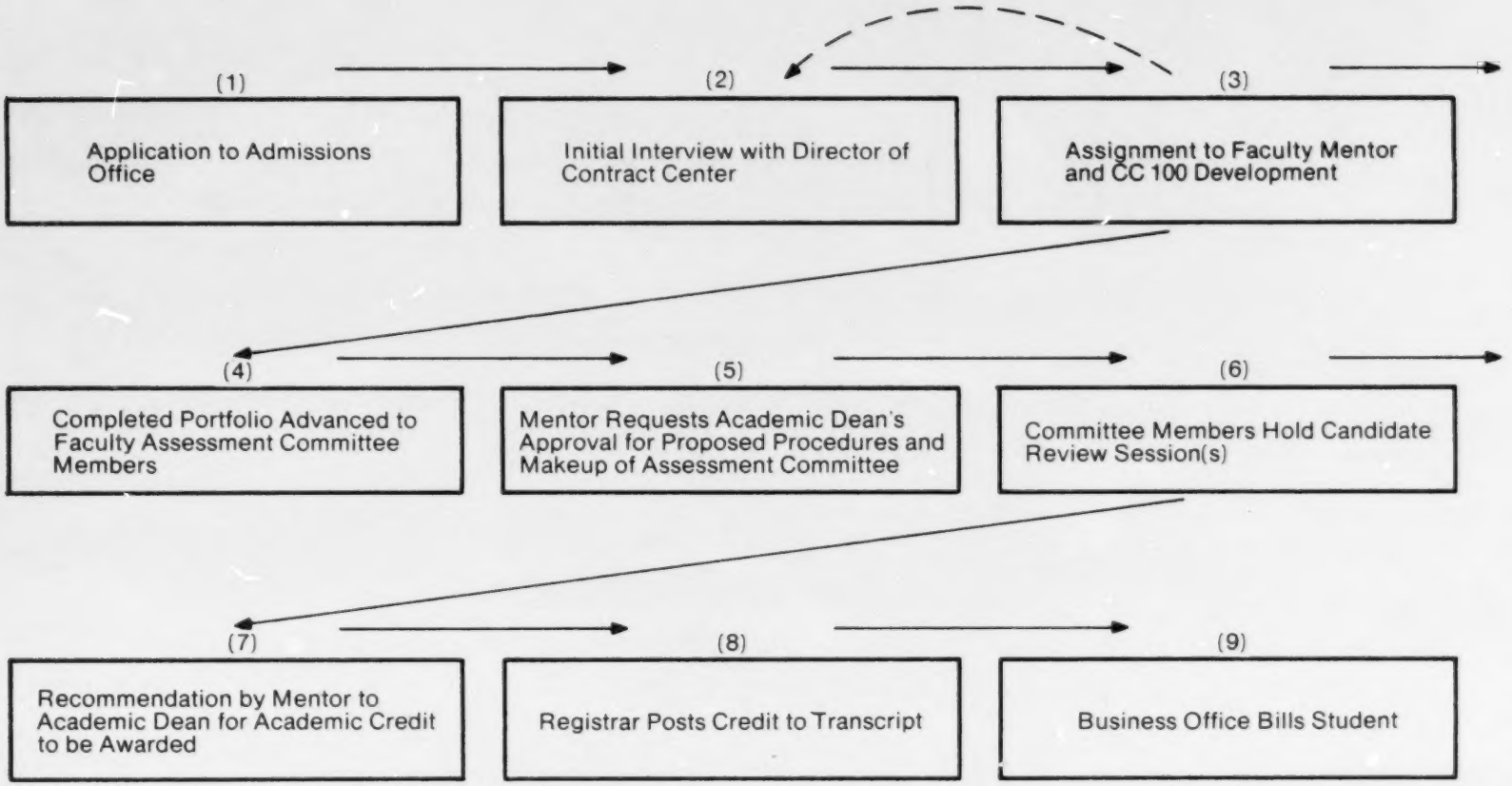
(9) If he approves, the Director files the portfolio and the memo, then forwards the credit recommendation to the Dean.

(10) If the Dean confirms the credit, the form is sent to the Registrar.

(11) The registrar posts credit to the student's transcript and forwards a copy of the form to the Business Office.

(12) The Business Office places a charge against the student's account. The charges are based on the following ratio:

| Credits Granted | Charge |
|---|---|
| 1 - 3 | $ 50 |
| 4 - 6 | 100 |
| 7 - 9 | 150 |
| 10 - 12 | 200 |


(1)
Application to Admissions Office
(2)
Initial Interview with Director of Contract Center
(3)
Assignment to Faculty Mentor and CC 100 Development
(4)
Completed Portfolio Advanced to Faculty Assessment Committee Members
(5)
Mentor Requests Academic Dean's Approval for Proposed Procedures and Makeup of Assessment Committee
(6)
Committee Members Hold Candidate Review Session(s)
(7)
Recommendation by Mentor to Academic Dean for Academic Credit to be Awarded
(8)
Registrar Posts Credit to Transcript
(9)
Business Office Bills Student

NOTE: Solid lines indicate the process through which each student must pass. Dotted line indicates the most likely point at which feedback may occur. Theoretically, it is, of course, possible for feedback loops to occur at any point; but in practice, this does not occur to any great extent, owing to the counseling each student receives.

**Figure 2. Sequential Model for Assessments—Contract Center**

Notes to Figure 2

(1) All prospective Contract Center assessment students must be approved for admission to the college as degree-seeking students prior to application for assessment of their experiential learning for academic credit.

(2) All prospective Contract Center assessment students must have an initial interview with the Director of the Contract Center to determine the usefulness of the Contract Center's assessment program for the student's objectives. This is the stage at which students may be counseled out of the program. Initial interviews average 30 minutes with usual follow-up interviews averaging an hour and a half in length. These interviews result in the assignment of the faculty mentor to the student.

(3) Registration for a three-credit-hour course (tutorial), designated CC 100, under a faculty mentor next occurs. The mentor and student develop a portfolio of the student's experiential learning and identify appropriate faculty for consultation and possible assessment of the learning for academic credit.

(4) The completed portfolio is advanced to appropriate individual faculty. These faculty assess the various portions of the portfolio in the areas in which they possess specific competence and report back to the mentor regarding the portfolio. They may, and do, request further documentation, explication. They also recommend procedures by which the student might demonstrate the experiential learning advanced for academic credit.

(5) When it appears likely that the student will finish his/her portfolio, the mentor writes a memo to the Academic Dean. The memo explains the documentation provided, the proposed procedures, and the makeup of the assessment committee, and requests approval to proceed with the assessment for specified academic credit.

(6) Members of a faculty committee (usually, but not always, the same group who examined the portfolio), hold a review session with the candidate in accordance with the aforementioned procedures as recommended. They recommend the awarding of academic credit at this point.

(7) The mentor formally requests the Academic Dean's authorization for the award of specific academic credit.

(8) The Registrar posts the credit to the transcript as titled by the faculty. Appropriate supporting documents are retained in the Contract Center files.

(9) The Business Office bills the student.

situation, rather than by means of a standardized questionnaire. We also determined that the interview itself should focus on time and percentages of resources allocated, rather than on dollar figures. Actual figures could be computed using the total budgetary figures available from the Business Office. Finally, it seemed wisest for a neutral figure to conduct the interview, rather than an individual associated directly with either of the programs. These strategies were designed to insure reasonably accurate information and to mitigate any feeling that the cost analysis would be used as a performance evaluation.

## III. METHODOLOGY IN DETERMINING INDIRECT COSTS

At the time our study began, only the maintenance department allocated its costs to activity centers at the college. Other supporting activities merely received a monthly report from the Business Office indicating expense categories, amounts budgeted, and amounts expended (see Table 1). A questionnaire based on this document seemed to be a logical tool for determining indirect costs from each supporting activity (see Table 2).

We had determined that, in varying degrees, indirect costs for both the Contract Center and the Webster Campus MAI derived from the following sources: Registrar, Business Office, Admissions Office, Veterans Affairs Office, Publications and Public Information Office, Purchasing, Media Center, Library, Print Shop, Mail Room, and Maintenance. Interviews with the directors of these agencies were scheduled over a two-week period.

As the interviews progressed, it became apparent that since costs in each activity were incurred in different ways, and since there were varying degrees of sensitivity to cost allocation, each activity center had to be analyzed individually. In some cases, the costs could best be determined by a simple percentage based on a ratio of students; in others, various weighting factors had to be applied to arrive at accurate cost figures. To illustrate this point, we have included Tables 3, 4, and 5, which describe the costs incurred by activities under the Treasurer's budget, the Library, and the Registrar's Office.

Based on an analysis of all the relevant activity centers, we determined that, for any 20 Webster Campus MAI students, the total indirect cost was $17,246.00; and for any 70 Contract Center students, the total indirect cost was $58,541.00.

The next step was to analyze the indirect costs for the assessment process itself and to compare these costs with those incurred by conventional class instruction. We had discovered that the assessments granted in the Webster Campus MAI averaged nine credit hours. While achieving these nine credits, the assessment student placed significantly less demands on the institution than the student attending classes. For example, the assessment process itself did not require that the student use the library, the media center, or even occupy for long periods of time the physical space supported by the maintenance department. With these facts in mind, we estimated that the indirect costs for the assessment process itself ran some 50 percent less than those for conventional modes of instruction.

The total indirect cost figure of $17,246.00 for any 20 Webster Campus MAI students and the estimate that indirect costs for the assessment process itself are 50 percent of those for conventional class instruction provided the basis for comparing unit costs for assessed and nonassessed students. The total indirect cost for any MAI student was computed to be $862.30 (i.e., the total indirect cost of $17,246.00 divided by 20). Since 30 credit hours are required for the MAI degree, the cost per class credit hour was determined to be $28.74 (i.e., $862.30 divided by 30). Given that indirect assessment costs were estimated to be half those for delivering class credits, it was determined that the indirect cost per assessed credit was half of $28.74, or $14.37.

With these figures at hand, the total indirect costs--cost for both the 21 class hours and the remaining 9 assessed hours--could be determined. The multiplication of the cost per class

Table 1

Monthly Budget Report

WEBSTER COLLEGE
BUDGET REPORT
PERIOD ENDING 10/31/75 DEPARTMENT 409

| | | BUDGET AMOUNT | EXPENDED TO DATE |
|---|---|---|---|
| 409.00 | DIRECTOR OF M.A.I. | | |
| 409.00 | DIRECTOR OF M.A.I. | | ** |
| 409.01 | Salaries | | |
| 409.04 | Other | | |
| 409.05 | Graphic Arts Dept Exp Distr | | |
| 409.06 | Mail Dept Exp Distr | | |
| 409.07 | Dining Room Charges | | |
| 409.09 | Membership Fees | | |
| 409.10 | Subscriptions | | |
| 409.11 | Travel | | |
| 409.12 | Postage Freight Express | | |
| 409.13 | Telephone and Telegraph | | |
| 409.14 | Social Programs | | |
| 409.15 | Books Purchased | | |
| 409.16 | Photography | | |
| 409.17 | Repairs | | |
| 409.18 | Printing & Reproduction | | |
| 409.24 | Supplies | | |
| 409.27 | Rents & Royalties | | |
| 409.28 | Outside Labor Services | | |
| 409.30 | Entertainment | | |
| 409.31 | Consultants | | |
| 409.38 | Recruiting Expense | | |
| 409.40 | Advertising | | |
| 409.41 | Meeting & Convention Expense | | |
| 409.44 | Renovation & Moving Expense | | |
| 409.50 | Furniture & Fixtures | | |
| 409.51 | Equipment | | |
| 409.52 | Making Keys | | |
| 409.90 | Accrued Purchase Orders | | |
| 409.99 | Misc Cash Receipts & Credits | | |

Total With Encumbered Salaries
Budget Comp. With Encumb. Salaries Over Budget

Actual Salaries
Actual Totals Year-To-Date
Year-To-Date Comparison Over Budget

**You have Completely Expended Monies Budgeted For Your Department For The Current Fiscal Year.

Table 2

Interview Tool

Activity _____ Director _____

| Budget Item | (1) % MAI | (2) % Underg. | (3) Total Ant. Costs ($) | (4) % MAI ($) | (5) % Underg. ($) |
|---|---|---|---|---|---|
| 01 Salaries | | | | | |
| 05 Graphic Arts | | | | | |
| 06 Mail Department | | | | | |
| 11 Travel | | | | | |
| 12 Postage, freight | | | | | |
| 13 Telephone, telegraph | | | | | |
| 14 Social programs | | | | | |
| 15 Books purchased | | | | | |
| 16 Photography | | | | | |
| 18 Printing, repro. | | | | | |
| 24 Supplies | | | | | |
| 27 Rents and royalties | | | | | |
| 38 Recruiting | | | | | |
| 40 Advertising | | | | | |
| 44 Renov., moving | | | | | |
| 50 Furniture, fixtures | | | | | |
| 51 Equipment | | | | | |
| Other | | | | | |
| TOTAL: | | | | | |

11

Table 3

Treasurer's Budoet Analysis

| (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|
| | % | % | $ | $ | $ |
| Activities | WCMAI | CC | TOTAL | WCMAI | CC |
| A. Maintenance & Housekeeping | 1 | 4 | 407,100 | 4,071 | 16,284 |
| B. Purchasing & Personnel | 1 | 4 | 27,800 | 278 | 1,112 |
| C. Mail Room | .05 | 2 | 19,100 | 95 | 382 |
| D. Switchboard | .05 | 2 | 76,000 | 380 | 1,520 |
| TOTAL | | | 530,000 | 4,824 | 19,298 |

Table 4

Library Analysis

| (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|
| | % | % | $ | $ | $ |
| Item | WCMAI | CC | TOTAL | WCMAI | CC |
| A. Acquisitions | 2 | 8 + $2500 | 40,000 | 800 | 5700 |
| B. Journals | 2 | 8 | 17,000 | 340 | 1360 |
| C. Binding | 2 | 8 | 6,000 | 120 | 480 |
| D. Salaries: | | | | | |
| 1. Acq. & Cat. | 2 | 8 | 76,650 | 1533 | 6132 |
| 2. Circulation | 2 | 8 | 37,750 | 755 | 3020 |
| E. Operating | 2 | 8 | 13,200 | 264 | 1056 |
| F. W.C. Rent | 2 | 8 | 25,000 | 500 | 2000 |
| G. W.C. Maintenance | 2 | 8 | 21,000 | 420 | 1680 |
| H. Other | 2 | 8 | 1,200 | 24 | 96 |
| TOTAL | | | 237,800 | 4756 | 19024 |

Table 5

Registrar's Office Analysis

| (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|
| | % | % | $ | $ | $ |
| Item | WCMAI | CC | TOTAL | WCMAI | CC |
| A. Salaries | 1% | 1% | 51,600 | 516 | 516 |
| B. Computer | 1% | 1% | 20,000 | 200 | 200 |
| C. Supplies | 1% | 1% | 4,100 | 41 | 41 |
| TOTAL | | | 75,700 | 757 | 757 |

Notes to Table 3:

Because of the nature of these activities, it did not seem appropriate to break down each activity according to salaries, equipment, etc. The percentages in columns 2 and 3 were based on the relative numbers of WCMAI and Contract Center students receiving assessments as compared with the total on-campus enrollments. Thus, for activities A and B the figures used were respectively, 20/2000 and 70/2000, or 1 percent and 4 percent. Because Webster has some 2,200 off-campus students for whom activities A and B provide little or no service, these off-campus students were not considered in the percentages.

However, these off-campus students are serviced by the other activities listed under the Treasurer's budget. Thus the ratios of 20/4200 and 70/4200, or .05 percent and 2 percent were deemed to apply.

It is important to keep in mind that this table details costs of any 20 WCMAI students and any 70 Contract Center students. The actual costs of the assessment process itself are presented in the body of the report.

Notes to Table 4:

The library budget reflects a more complex breakdown of costs than the Treasurer's budget presented in Table 3. We have estimated that, in terms of library costs, the physical presence of on-campus students makes them approximately four times as expensive as off-campus students. Thus, the percentage of .05 percent, the ratio of WCMAI to total enrollments, became 2 percent. Similarly, the 2 percent of CC students became 8 percent. Note also that the librarian expended an extra $2500 (column 3-A) for special purchases for Contract Center students. This figure has been added to Contract Center Costs. Again, these are costs of any 20 and 70 students respectively, not the costs of assessment per se.

Notes to Table 5

In determining costs, the Reg strar evolved a weighting system based on the number of times students registered (WCMAI students register five times a year; CC students register twice yearly). The Registrar also added a factor of 0.5 to account for complications experienced with processing undergraduates generally. Thus, in spite of the fact that only 20 WCMAI students receive assessments in contrast to 70 CC students, both groups account for 1 percent of the expenses of the Registrar's office.

hour by the 21 class hours taken by assessment students yielded a figure of $603.54; multiplication of the cost per assessed hour by the 9 assessment hours yielded a figure of $129.33; and both of these totals combined to make a total indirect cost figure of $732.87 per assessed student. This represents a cost saving of $129.43 when compared with the total indirect costs for students who take all 30 hours in class.

The following summary compares indirect unit costs for assessed Webster Campus MAI students with those for students who only attend classes:

| | | |
|---|---|---|
| 1. | Indirect costs for any 20 WC MAI students | $17,246.00 |
| 2. | Indirect cost per student ($17,246.00 ÷ 20) | 862.30 |
| 3. | Indirect cost per conventional class credit hour (862.30 ÷ 30) | 28.74 |
| 4. | Indirect cost per assessed credit hour ($28.74 x .5) | 14.37 |
| 5. | Total indirect cost per assessed student ($28.74 x 21 = $603.54) ($14.37 x 9 = $129.33) ($603.54 + $129.33) | 732.87 |
| 6. | Indirect cost saving per assessed student ($862.30 - $732.87) | 129.43 |

The same methodology was employed to arrive at the indirect costs for Contract Center students, but these students were grouped as: Category A--those students who received 30 assessment credits and took only 2 class credits in a year--and Category B--those who received only 7 assessment credits and took 25 class credits during the same period. We estimated that the average indirect cost for each assessed credit for Contract Center students was $13.07. Thus, the total indirect cost for Contract Center students was $444.36 for students in Category "A," and $744.74 for students in Category "B." Compared with students who took all 32 credits in conventional classes, there was an indirect cost saving of $391.80 for students in Category "A," and $91.42 for those in Category "B."

Briefly stated, the conclusion of the indirect cost study seems to be that as the volume of assessed credits increases, the indirect unit cost diminishes.

# IV. METHODOLOGY IN DETERMINING DIRECT COSTS

Although the methods of prior learning assessment in both the Webster Campus Master of Arts Individualized Program and the Contract Center are quite similar, each agency follows a different budgeting system and, thus, the costing of each must follow different patterns.

With respect to the Webster Campus MAI, it is important to note two aspects of their budgeting.

1. Faculty members who are employed by the Webster Campus program are paid on an overload basis. They are organized into interdisciplinary committees chaired by a Coordinator. These groups are responsible for planning curriculum, general academic advising, portfolio advising, and evaluation. Therefore, costs to be ascribed to the assessment process itself must be abstracted from larger figures. (The overload payments to faculty are not based on an hourly schedule, but on negotiations between the individual faculty member and the Director. A key document in these negotiations is a statement of objectives arrived at jointly by the Director and the faculty member. Periodically, the objectives are compared with achievements, and the following year's salary is based, in part, on the achievement rate.)
2. The expenses of the Webster Campus program are included in the overall Master of Arts Individualized budget. That is, costs incurred by the 130 Webster Campus students are submerged within a budget which accounts for some 2,330 students. In this case, some of the costs for the assessment process itself must be extracted from larger figures.

Table 6 analyzes the portion of direct costs that can be attributed to the assessment process itself in the Webster Campus MAI and presents a total direct cost figure of $5,649.50 for the 20 Webster Campus MAI students who receive assessments.

Given this figure, the direct cost per student was determined to be $282.47, (i.e., the total direct cost figure of $5,649.50 divided by the 20 students involved). The per credit hour direct cost was determined by dividing the average number of assessed credits, 9, into the total direct cost per student figure of $282.47, or $31.39. Combining both direct and indirect costs per assessed credit yielded a total cost per assessed credit of $45.76.

The following summary shows the direct unit costs for the assessment process itself in the Webster Campus MAI:

| | | |
|---|---|---|
| 1. | Direct costs for the assessment of 20 students | $5,649.50 |
| 2. | Direct cost per student ($5,649.50 ÷ 20) | 282.47 |
| 3. | Direct cost per assessed credit hour ($282.47 ÷ 9) | 31.39 |
| 4. | Total cost per assessed credit hour (indirect + direct; $14.37 + $31.39) | 45.76 |

Table 6

Direct Costs in WCMAI

| (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|
| | $ | % | $ | % | $ |
| Salaries | Total | WCMAI | WCMAI | Assessments | Assessments |
| A. Director & Secretary | 24,900 | 50 | 12,450 | 15 | 1,867.50 |
| B. Faculty Coordinator & Committee | 13,000 | 100 | 13,000 | 20 | 2,600.00 |
| C. "Pro-Seminar" | 2,000 | 100 | 2,000 | 30 | 600.00 |
| D. Supplies, etc. | 64,677 | 6 | 3,880 | 15 | 582.00 |
| TOTAL DIRECT COSTS | | | | | 5,649.50 |

Notes to Table 6:

General costs for the Webster Campus MAI and then costs for the assessments conducted within that program are shown. The 50 percent in column 3 for the salaries of the Director and the secretary reflect the estimate that half of their time is devoted to the on-campus program. Since 20 of the program's 130 students (15 percent) receive assessments, it is estimated that these students demand 15 percent of administrative time. The percentages in 5-B and 5-C are proportionately higher because the bulk of assessment work is performed by the faculty.

Under "Supplies, etc." the $64,677 cost represents MAI program-wide expenditures; the 6 percent reflects the ratio of Webster Campus students to all MAI students; the figure of 15 percent in column 5-D reflects the ratio of on-campus students who receive assessments to all on-campus MAI students.

The comparison of these costs with those for traditional class instruction is given in the next section of this report.

A study of direct costs incurred in the assessment of experiential learning by the Contract Center was in some ways an easier operation to perform than other aspects of the cost analysis.

Direct costs of the Contract Center can be calculated from the following three categories:

1. Contract Center salaries: Director
   Half-time secretary
   Work-study assistant

2. Salaries of mentors and evaluators of CC 100

3. Other budget categories reported monthly for the Contract Center's operations.

The Contract Center services four types of student in its different operations. These are as follows:

1. IS Individualized Structure, Systems, Studies:
   It is this group who will generally take CC 100.

2. IAOC Individualized Area of Concentration:
   Students who are "majoring" in the Contract Center to put a package of courses together to secure a major not otherwise offered.

3. ILE Independent Learning Experience:
   Students in sponsored learning outside the college walls.

4. CLEP and other information services.

The time taken to service the fourth group is relatively negligible. Varying amounts of time are needed to process the other types of student, depending upon the services they are seeking. Thus, the following weighting factor was arrived at, in consultation with the Contract Center Director, to estimate direct costs incurred by each group of students with respect to the Director's salary:

One IS student = 5.0
One IAOC student = 1.0
One ILE student = 0.5

The time of the half-time secretary and student work-study assistant (who works 30 weeks for 16 hours/week) required a different factoring ratio since the time spent with and/or on behalf of each group of students differs from that of the time spent by the Director. Thus, the following factor seemed applicable for computing direct costs of the salaries of the half-time secretary and the work-study student:

One IS student = 10.0
One IAOC student = 0.5
One ILE student = 0.5

For the current fiscal year (June 1, 1975--May 31, 1976) an estimate of total numbers of Contract Center student users in each major group is:

| Total Numbers | | | Director's Salary | | | Total Numbers | | | Half-time Secretary and W/S Student | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IS | = 100 | x | 5.0 | = 500 | | IS | = 100 | x | 10.0 | = 1000 | |
| ILE | = 350 | x | 0.5 | = 175 | | ILE | = 350 | x | 0.5 | = 175 | |
| IAOC | = 90 | x | 1.0 | = 90 | | IAOC | = 90 | x | 0.5 | = 45 | |
| | | | | 765 | | | | | | 1220 | |

Using the factor for applying direct costs to the Director's salary, we find that IS students account for 65 percent of that salaried cost (500 ÷ 765), whereas 82 percent of secretarial and work-study salaried costs are to be attributed to IS students (1000 ÷ 1220).

To calculate direct costs for the assessment process with respect to the mentors of CC 100, each mentor was asked to estimate the total percentage of his/her contract time spent in helping a student develop a portfolio in CC 100. This was necessary since the mentors of CC 100 are regular faculty and administrators who are budgeted under academic departments and adminstrative units other than the Contract Center. From this inquiry, it was determined that the six mentors spend on the average a total of six percent of their regular contract time in the CC 100 assessment process.

In addition to the faculty members who serve as mentors of CC 100, others serve varying amount of time as evaluators on CC 100 examination committees. It was estimated that eight of the 15 faculty members who are regularly used in the evaluator capacity spend three percent of their contract time in this way, and the other seven spend approximately one percent of their time as evaluators.

Finally, the Contract Center Director estimated the percentage of each nonsalary budget category of the Contract Center which ought to be charged against the assessment process. A total cost figure for these areas was arrived at and placed under the heading of "Supplies and other."

The direct costs for assessments through the Contract Center are shown in Table 7.

Given that total direct costs for Contract Center students who receive assessments amounted to $14,954.00, we were able to determine that direct costs per credit for assessed students in Category "A" were $7.12, whereas direct costs per assessed credit for students in Category "B" were $30.42. The combination of indirect and direct costs yielded a total cost figure of $20.19 and $43.49 for students in Categories "A" and "B" respectively. Again, one would conclude that with respect to direct costs, as the volume of assessed credit increases, the cost diminishes. This saving is accomplished without any apparent decline in quality since both high and low cost assessments involve the same process and often the same assessors.

Table 7

Direct Costs in the Contract Center

| Salaries | $ Total | % Contract Center | % Assessment | $ Total Assessment Costs |
|---|---|---|---|---|
| Director | 4,000 | 100 | 65 | 2,600.00 |
| Half-time secretary | 2,925 | 100 | 82 | 2,400.00 |
| Work-study student | 1,200 | 100 | 82 | 984.00 |
| Mentors (N=6) | 72,000 est. | - | 6 | 4,320.00 |
| Evaluators (N=15) | 180,000 est.* | - | 1-3* | 3,720.00 |
| Supplies and other | 1,100 | 100 | 93 | 930.00 |
| TOTAL DIRECT COSTS | | | | 14,954.00 |

* Equivalent to 8 faculty who spend 3 percent of total contract time and 7 faculty who spend 1 percent of total contract time.

# V. COST BENEFIT ANALYSIS

This section of the report compares the total cost for the assessment process itself with the total costs for class instruction. It then discusses the relative benefits, financial and otherwise, of the assessment programs.

For the Webster Campus MAI, the total cost of delivering assessment credits compares favorably with the costs for delivering what we have been calling class credits. An earlier study had yielded a total cost figure of $62.34 for each conventional credit hour. In light of the present study's finding that each assessed credit costs $45.76, it would seem that the assessment process is economically viable.

Although unit costs for the assessment process in the Webster Campus MAI are less than costs for class credits, the relative differences in direct income more than overbalance this advantage. Current tuition is $75.00 per credit hour, whereas the assessment fee is $50.00 for each block of 3 credits (approximately $16.66 per assessed credit). At these rates, income from class credits exceeds costs by $12.66 per credit, and costs exceed income for assessed credits by $29.76 per credit.

The picture brightens somewhat if we compare the total costs for students who receive assessments (i.e., their costs for traditional classes as well as their assessments cost) with the total income which they bring to the program:

| | | |
|---|---|---|
| 1. | Total indirect cost for each assessed student | $ 732.87 |
| 2. | Total direct cost for each assessed student | 988.11 |
| 3. | Total cost for each assessed student | 1720.98 |
| 4. | Tuition income for 21 class hours | 1575.00 |
| 5. | Income from assessment fee for 9 hours | 150.00 |
| 6. | Total income per assessed student | 1725.00 |
| 7. | Income surplus | 5.98 |

For the Contract Center, the total cost of delivering assessment credits compares very favorably with the cost of conventional class credits. Whereas the total cost for a class credit in this undergraduate program has been determined to be $76.13, the cost per assessed credit is $20.19 for students in Category "A", and $43.49 for students in Category "B." Thus, the Contract Center enjoys a cost surplus of $55.94 per assessed credit for students in the first category, and $32.64 for students in the second.

In addition, the Contract Center has developed an assessment fee structure that varies with the number of credits granted and that generally approximates the actual costs of assessment. Thus, with regard to total costs of assessment students, the Contract Center experiences a very favorable cost-income ratio. As suggested earlier, this happy circumstance is due largely to the volume of assessments which the Contract Center facilitates.

In light of the basic economic lesson implicit in the contrast between the high cost but low volume MAI and the low cost but high volume Contract Center, one might assume that the MAI plans to increase assessments and the Contract Center would be content with the status quo. However, because the assessment of prior learning has different priorities in each of these programs, the reverse is true.

The Webster Campus MAI has defined itself as an innovative program that specializes in

developing curricula in new and emerging fields rather than one that credentials prior learning. Thus, it plans to maintain the assessment program as a service for students who seek it out, but it does not envision a dramatic increase in assessments. To direct more time and energy to assessments would seem to be at this time counterproductive in terms of the long-range goals of the program. However, in the coming fiscal year the assessment fee will be increased in order to bring the income from assessments more in line with assessment costs.

The Contract Center, on the other hand, regards the assessment of prior learning as one of its chief objectives. Thus, it plans to increase the number of assessments by adding a staff member to assist in portfolio development. This organizational shift will enable faculty to concentrate their relatively expensive and limited time in the evaluation and mentoring phases of assessment.

For both programs there are a number of real, if nonquantifiable, benefits deriving from the existence of the assessment process. It does offer a valuable service to those students in the community who merit academic recognition of their prior learning. Faculty members who are actively involved with assessment add new and potentially marketable skills to their repertoire. Through the assessment program faculty members also have the opportunity to become better acquainted with the older student population who constitute a sizeable proportion of Webster's students. Finally, those involved in the assessment program seem to agree that it has added to the richness and diversity of the teaching/learning environment at Webster College.

# VI. CONCLUSIONS

This report has analyzed the costs and benefits of the assessment of prior learning in two programs at Webster College. The early sections of the report describe the preparation for and methodology of the study, the later sections present results. What follows is a summary of conclusions derived from both phases of the cost analysis process.

1. It seems important to tailor a cost analysis model to meet the information systems of the institution. In a private school such as Webster, this means evolving a somewhat unique approach. Schools that are part of a state network where a standard budget reporting system is required should use a cost analysis model that is compatible with their requirements.
2. Those involved in cost analysis should be sensitive to the power structure as it is perceived by the individuals whose activities are analyzed. In an authoritarian environment, the mandate for cost analysis should come clearly and explicitly from top management. For an institution where more consensual management policies are employed, the cost analysis may be more of a personal and cooperative effort.
3. Those undertaking a cost analysis study should also be sensitive to the threat which the study may pose. Certain individuals may fear that the results of the study will be used as a measure of efficiency. Unless mitigated in some way, this fear could skew the information received from such individuals.
4. The assessment of prior learning, viewed as an organizational endeavor, illustrates the basic economic fact that as volume increases, unit costs diminish. Presumably there is a maximum capacity which, if exceeded, would then lead either to a decline in quality or to the need for additional resources.
5. The role of the assessment process should be considered within the context of the overall objectives of a given program or institution. In some cases, assessment may take a high priority and thus merit a substantial investment of resources. In other cases, long-range objectives may dictate that assessment programs occupy a lesser place.